

REMARKS

In the Office Action, the Examiner objected to the drawings and the specification. The Examiner also objected to certain informalities in the claims. In addition, the Examiner rejected claims 1-3 under 35 U.S.C. § 103(a) as being unpatentable over USP 6,320,391 issued to Bui (Bui) in view of USP 6,546,540 issued to Igarashi (Igarashi). Claims 4-8 were rejected under 35 U.S.C. § 102(e) as being anticipated by Igarashi. Also, claim 9 was rejected under 35 U.S.C. § 102(b) as being anticipated by USP 5,822,214 issued to Rostoker (Rostoker). In this Amendment, Applicants have amended claims 2, 3, 4, 6, and 9, and added claims 10-12. Accordingly, claims 1-12 will be pending after entry of this Amendment.

10 I. Objection to the Drawings

In the Office Action, the Examiner objected to Figures 28B, 29B, 31B, and 53B for failing to identify the source of the incoming arrows into the flowcharts illustrated in these figures. Attached to this Amendment are four sheets of drawings, which include revised Figures 28B, 29B, 31B, and 53B. These revised figures identify the source of the incoming arrows into the flowcharts illustrated in these figures. Also, attached are four sheets that are redlined versions of the new sheets. These redlined versions show the amendments to the four sheets in red ink. In view of the foregoing, Applicants respectfully request approval of the proposed amended figures.

II. Claim of Priority

The Examiner requested that the missing serial number be provided in the claim of priority on page 1 of the specification. Applicants respectfully submit that they provided this serial number in the Preliminary Amendment dated May 22, 2003. A copy of this Preliminary Amendment and its returned postcard accompany this Amendment.

III. Objections to Claims 2-4, 6, and 9

The Examiner objected to certain informalities in claims 2-4, 6, and 9, and suggested certain amendments to these claims. Applicants have amended the claims per the Examiner's suggestions. Accordingly, Applicants respectfully request reconsideration and withdrawal of the
5 objections to claims 2-4, 6, and 9.

IV. Claims 1-3

The Examiner rejected claims 1-3 under § 103 as being unpatentable over Bui in view of Igarashi. Applicants respectfully traverse this rejection. Claim 1 recites an IC layout that has two sets of vias, where the first set has a diamond shape and the second set has a rectangular shape.

10 Claims 2 and 3 are dependent on claim 1.

Applicants respectfully submit that neither Bui, nor its piecemeal combination with Igarashi, discloses, teaches, or even suggests the IC layout recited in claim 1. First and foremost, Bui discloses a device that is an interconnect test structure, not the recited IC layout. Second, Applicants respectfully disagree with the Examiner's characterization that the square shaped vias
15 424 of Bui are the recited diamonds of claim 1. Third, Applicants respectfully submit that Bui does not disclose, teach, or even suggest using both rectangular shaped vias and diamond shaped vias. Fourth, as the Examiner noted, Bui lacks the combination of multiple layers of the IC. Fifth, Applicants respectfully submit that there is no suggestion in the art to combine aspects of the testing structure of Bui with the disclosure of Igarashi. Sixth, even this piecemeal combination
20 does not disclose, teach, or even suggest an IC layout having two sets of vias, where one set has a diamond shape and another has a rectangular shape.

Accordingly, Applicants respectfully submit that neither Bui, nor its piecemeal combination with Igarashi, discloses, teaches, or even suggests the IC layout recited in claim 1 or the IC layouts recited in claims 2 and 3, which are dependent on claim 1. In view of the

foregoing, Applicants respectfully request reconsideration and withdrawal of the § 103 rejection of claims 1-3.

V. Claims 4-8 and 10-12

Claims 4-8 were rejected under § 102 as being anticipated by Igarashi. In this
5 Amendment, Applicants have amended claim 4 to recite an IC layout that has a first set of vias and a first set of interconnect lines that terminate on several of the first set of vias. Each via in the first set traverses at least two layers and has one contact on each of the layers. One of the contacts is in the shape of a rectangle and the other contact is in the shape of a diamond. The interconnect lines in the first set of interconnect lines have ends that terminate on the contacts.
10 Several of the interconnect line ends are in shape of a half polygon, where the polygon has more than four sides. Claims 5-8 and new claims 10-12 are dependent on claim 4.

Applicants respectfully submit that Igarashi does not disclose, teach, or even suggest the IC layout of amended claim 4. For instance, Igarashi does not disclose, teach, or even suggest using interconnect line end that have hemi-polygonal ends, where the polygons have more than
15 four sides. Accordingly, Applicants respectfully submit that Igarashi does not disclose, teach, or even suggest the IC layout recited in claim 4 or the IC layouts recited in claims 5-8 and 10-12, which are dependent on claim 4. In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the § 102 rejection of claims 4-8.

VI. Claim 9

20 Claim 9 was rejected under § 102 as being anticipated by Rostoker. Applicants respectfully traverse the Examiner's rejection. Claim 9 recites an IC layout comprising a first set of vias, where each via in the first set traverses at least two layers and has one contact on each of the layers, and where one of the contacts is in shape of a quadrilateral polygon and one of the contacts is in shape of a non-quadrilateral polygon.

In rejecting claim 9, the Examiner cited column 86, lines 49-58 of Rostoker. However, Applicants respectfully submit that the cited section of Rostoker does not disclose, teach, or even suggest using two different contact shapes for a via, where one contact shape is a quadrilateral polygon and the other contact shape is a non-quadrilateral polygon. Accordingly, Applicants
5 respectfully submit that Rostoker does not disclose, teach, or even suggest the IC layout recited in claim 9. In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the § 102 rejection of claim 9.

CONCLUSION

In view of the foregoing, it is submitted that the claims are in condition for allowance. Reconsideration of the rejections and objections is requested. Allowance is earnestly solicited at the earliest possible date.

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Respectfully submitted,

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